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March 29, 2010

*Sent via email to [dthompson@cmap.illinois.gov](mailto:dthompson@cmap.illinois.gov)*

Ms. Dawn Thompson  
CMAP  
233 S Wacker Dr, Suite 800  
Chicago, IL 60606

Re: CMAP Water Quality #10-WQ-004, Village of Big Rock

Dear Ms. Thompson:

Openlands, Prairie Rivers Network and the Illinois Chapter of Sierra Club have reviewed the Village of Big Rock's request to create a facility planning area (FPA) of 285 acres in Big Rock Township, Kane County and to construct a new 0.056 MGD wastewater treatment system with discharge to Big Rock Creek. We recognize the village's efforts to improve the quality of wastewater discharges which currently flow to Welch Creek and Big Rock Creek through drain tiles connected directly to individual septic tanks. The proposed FPA incorporates 153 existing homes, businesses and institutions in the village along with 29 undeveloped residential lots and 7 undeveloped commercial properties. The proposed wastewater treatment system will include individual septic tank and effluent pumps (STEP system) along with a common recirculation tank, recirculating sand filter, UV disinfection and a meandering constructed wetland for final polishing before the treated wastewater is discharged to Big Rock Creek.

This is an important and worthwhile project which will improve water quality in Welch Creek and Big Rock Creek; both are listed as biologically significant streams with Welch Creek rating a "B" score for its integrity and a "C" score for its diversity. Big Rock Creek rates a "B" score for its diversity in this area of the creek and "B" integrity score in the reach just upstream of its confluence with Welch Creek and an "A" integrity score in the reach downstream of the creeks' confluence. As the attached EcoCat report shows, the endangered spike mussel is found downstream from the proposed effluent discharge point on Big Rock Creek.

Chapter 5 of the Village of Big Rock Wastewater Facilities Plan describes the proposed effluent limits for the wastewater treatment system (Table 5-1) and compares its daily load to the estimated current loading from septic tank discharges from the village (Table 5-2). We recognize that the planned new wastewater treatment system will significantly improve the quality of wastewater that now flows to Welch Creek and Big Rock Creek. However, because of the high ecologic quality of the stream (as demonstrated by its high diversity and integrity scores) and the presence of the endangered spike mussel, we question whether the proposed ammonia limits are sufficient to protect mussels found in the creek. Recent studies have shown mussels to be especially sensitive to ammonia pollution. We also recommend that phosphorus removal be considered as part of the treatment regime.

We welcome the plan to include a 'meandering streambed lined with wetland vegetation to provide additional nutrient uptake and aeration' as a final treatment step prior to the discharge of wastewater to

Big Rock Creek. It would be helpful to have more information about the size of this constructed wetland, the distance which wastewater will flow through the wetland and the anticipated residence time.

With regards to nonpoint source pollution, we encourage the Village of Big Rock to work with Kane County to update its stormwater management ordinances to be on par with standards in the CMAP model ordinances so that the village satisfies prerequisite criteria #4 in its FPA application. Specifically, to protect Big Rock Creek and resident aquatic life, including the state-threatened spike mussel, the ordinance applying to its area should:

- 1) Prohibit the modification of high quality, irreplaceable wetlands, lakes and stream corridors;
- 2) Designate a minimum 75 foot setback zone from the edge of the identified wetlands and water bodies in which development is limited to the following types of activities: minor improvements like walkways and signs, maintenance of highways and utilities, and park and recreational area development;
- 3) Establish a minimum 25-foot wide protected native vegetation buffer strip along the edge of identified wetlands and water bodies;
- 4) Prohibit water relocation or modification except to remedy existing erosion problems, restore natural conditions, or to accommodate necessary utility crossings; and require mitigation of unavoidable adverse water quality and aquatic habitat impacts;
- 5) Discourage the armoring of channels and banks unless natural vegetation and gradual bank sloping are inadequate to prevent severe erosion; and
- 6) Discourage culvert crossings of streams unless necessary for allowing access to a property;

Thank you for the opportunity to comment on this FPA amendment application.

Sincerely,



Cynthia L Skrukrud, Ph.D.  
Clean Water Advocate  
Sierra Club, Illinois Chapter  
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Richmond, IL 60071  
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Attachment- EcoCat report for Big Rock Creek



**Applicant:** Cindy Skrukud  
**Contact:** Cindy Skrukud

**IDNR Project #:** 1007897  
**Alternate #:** CMAP10WQ0  
 04

**Address:** 4209 W Solon Rd  
 Richmond, IL 60071

**Date:** 03/30/2010

**Project:** Big Rock STP  
**Address:** 106 W Fourth St, Big Rock

**Description:** proposed new STP discharge to Big Rock Creek

### Natural Resource Review Results

*This project was submitted for information only. It is not a consultation under Part 1075.*

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Spike (*Elliptio dilatata*)

#### Location

The applicant is responsible for the accuracy of the location submitted for the project.

**County:** Kane

**Township, Range, Section:**

38N, 6E, 21	38N, 6E, 22
38N, 6E, 25	38N, 6E, 26
38N, 6E, 27	38N, 6E, 28
38N, 6E, 35	38N, 6E, 36
38N, 7E, 31	

**County:** Kendall

**Township, Range, Section:**

37N, 6E, 1



#### **IL Department of Natural Resources Contact**

Impact Assessment Section  
 217-785-5500  
 Division of Ecosystems & Environment

IDNR Project Number: 1007897

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**Disclaimer**

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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